

1 BILL NO. S-81-07- 46

2 SPECIAL ORDINANCE NO. S- 189-81

3  
4 AN ORDINANCE approving Change Order  
5 No. 28 in connection with the WPC  
6 Plant Expansion, Division I, Federal  
Grant C-18053801.

7 BE IT ORDAINED BY THE COMMON COUNCIL OF THE CITY OF FORT  
8 WAYNE, INDIANA:

9 SECTION 1. That Change Order No. 28 to Hagerman Con-  
10 struction Corporation/Shambaugh & Son, Inc. in connection with  
11 the WPC Plant Expansion, Division I, Federal Grant C-18053801,  
12 for:

13 to delete computer on site and  
14 software equipment and other related  
equipment, delete main control,  
15 stormwater, chemical control panels  
and related wiring; furnish and install  
16 the influent control, utilities con-  
trol, chemical control and terminal  
17 pond control panels; modify stormwater  
station, aeration, digester, and lift  
18 station regulator panels and other minor  
modifications,

19 in the amount of \$820,855.00, as set out in the specifications,  
20 which are on file in the Office of the Board of Public Works  
21 and are by reference incorporated herein and made a part hereof,  
22 be and the same is in all things ratified, confirmed and ap-  
23 proved.

24 SECTION 2. That this Ordinance shall be effective from  
25 and after its passage and approval by the Mayor.

26  
27   
COUNCILMAN

28 APPROVED AS TO FORM AND  
29 LEGALITY JULY 24, 1981.

30  
31   
32 BRUCE O. BOXBERGER, CITY ATTORNEY

Read the first time in full and on motion by Burns, seconded by Salaries, and duly adopted, read the second time by title and referred to the Committee City Night (and the City Plan Commission for recommendation) and Public Hearing to be held after due legal notice, at the Council Chambers, City-County Building, Fort Wayne, Indiana, on 7-28-81, 1981, the 7 o'clock M., E.S.T.

DATE: 7-28-81

Charles W. Westerman  
CHARLES W. WESTERMAN  
CITY CLERK

Read the third time in full and on motion by Burns, seconded by Estlin, and duly adopted, placed on its passage. PASSED (~~lost~~) by the following vote:

	<u>AYES</u>	<u>NAYS</u>	<u>ABSTAINED</u>	<u>ABSENT</u>	<u>TO-WIT:</u>
<u>TOTAL VOTES</u>	<u>7</u>	<u>      </u>	<u>      </u>	<u>2</u>	<u>      </u>
<u>BURNS</u>	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>EISBART</u>	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>GIAQUINTA</u>	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>NUCKOLS</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>X</u>	<u>      </u>
<u>SCHMIDT, D.</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>X</u>	<u>      </u>
<u>SCHMIDT, V.</u>	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>SCHOMBURG</u>	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>STIER</u>	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>
<u>TALARICO</u>	<u>X</u>	<u>      </u>	<u>      </u>	<u>      </u>	<u>      </u>

DATE: 8-11-81

Charles W. Westerman  
CHARLES W. WESTERMAN - CITY CLERK

Passed and adopted by the Common Council of the City of Fort Wayne, Indiana, as (ZONING MAP) (GENERAL) (ANNEXATION) (SPECIAL) (APPROPRIATION) ORDINANCE: (RESOLUTION) No. 2-189-81 on the 11th day of August, 1981.

ATTEST:

(SEAL)

Charles W. Westerman  
CHARLES W. WESTERMAN - CITY CLERK

James Stites  
PRESIDING OFFICER

Presented by me to the Mayor of the City of Fort Wayne, Indiana, on the 12th day of August, 1981, at the hour of 11:30 o'clock A. M., E.S.T.

Charles W. Westerman  
CHARLES W. WESTERMAN - CITY CLERK

Approved and signed by me this 13th day of August, 1981, at the hour of 3:40 o'clock P. M., E.S.T.

Winfield C. Moses, Jr.  
WINFIELD C. MOSES, JR.  
MAYOR

S-81-07-46

BILL NO. \_\_\_\_\_

REPORT OF THE COMMITTEE ON CITY UTILITIES

WE, YOUR COMMITTEE ON City Utilities TO WHOM WAS REFERRED AN  
ORDINANCE approving Change Order No. 28 in connection with the  
WPC Plant Expansion, Division I, Federal Grant C-18053801

HAVE HAD SAID ORDINANCE UNDER CONSIDERATION AND BEG LEAVE TO REPORT  
BACK TO THE COMMON COUNCIL THAT SAID ORDINANCE 80/ PASS.

PAUL M. BURNS, CHAIRMAN

VIVIAN G. SCHMIDT, VICE CHAIRMAN

BEN A. EISBART

SAMUEL J. TALARICO

ROY J. SCHOMBURG

*Paul M. Burns*  
*Vivian G. Schmidt*  
*Ben A. Eisbart*

*Samuel J. Talarico*

*Roy J. Schomburg*

8-11-81 *8/11*

CONCURRED IN  
DATE \_\_\_\_\_ CHARLES W. WESTERMAN, CITY CLERK



PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~SECT~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

TO: Hagerman-Shambaugh, Joint Bidders  
c/o Hagerman Construction Company  
510 West Washington Blvd.  
P.O. Box 10690  
Fort Wayne, Indiana 46853

71-4-16  
 7/15/81

You are hereby authorized to make the following additions and/or deductions to your contract amount.

	Previous Contract Amount	Increase	Decrease	Net Change (Add)	Revised Contract Amount
TOTAL	\$ <u>22,356,153.39</u>	\$ <u>1,396,535.00</u>	\$ <u>575,680.00</u>	\$ <u>820,855.00</u>	\$ <u>23,177,008.39</u>

Description of Change:AddDeduct

Item No. 1 Delete Computer On-Site Equipment  
and Inplant Telemetry Equipment

\$168,466

- a. Computer on-site equipment (see progress billing plan Item X.C and Honeywell invoice 12/15/76, Attachment A, Items 34, 35, 37, and 38)  
 (1) KSR-35 Teletype (3,193)  
 (2) RO Printers (9,493)  
 (3) Operators Console with Keyboard (16,316)  
 (4) Vupak Monitor CRT (3,674)
- b. Inplant telemetry equipment (see progress billing plan Item IX)  
 (1) Main Control Panel-DAP (60,790)  
 (2) Aeration Control Panel-DAP (30,000)  
 (3) Chemical Control Panel-DAP (15,000)  
 (4) Digester Control Panel-DAP (15,000)  
 (5) Stormwater Panel-DAP (15,000)
- c. Total Credit = \$168,466

Item No. 2 Delete Start-up and Training Services,  
Applications Software, and Associated Installation  
and Wiring for the Computer and Inplant Telemetry System

\$130,563

- a. Start-up services (see progress billing Plan Item X.D) (16,000)
- b. Training services (see progress billing plan Item XI) (6,000)
- c. Applications Software (see progress billing plan Item X.E.)

PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~XXXXXXXX~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

Page 2

Add

Deduct

- c. Applications Software (continued)
  - (1) Process Points Data Base (16,000)
  - (2) Graphic Displays (10,807)
  - (3) Maintenance Logging (9,000)
  - (4) Lab Data Entry and Historic Data Storage (9,000)
  - (5) Reports (14,000)
  - (6) Plant Control (14,000)
  - (7) Miscellaneous Monitoring (4,500)

- d. Equipment Installation
  - (1) Labor (12,830)
  - (2) Materials (2,347)

- e. Wiring
  - (1) Labor (12,481)
  - (2) Materials (3,598)

- f. Total Credit = \$130,563

Item No. 3 Delete all Main Control Panel  
Equipment Except that Portion Associated with  
Lift Station/Regulator/River Monitor Monitoring.  
(see progress billing plan item V.B.1.b. thru e,  
2., 3., 5., and E.5.)

\$147,071

- a. Section 2, electrical distribution graphic (10,000)
- b. Section 3, plant process graphic (61,413)
- c. Section 4, stormwater station/terminal pond graphic (20,000)
- d. Section 5, chemical feed graphic (10,000)
- e. Operators console (13,543)
- f. MCP sections 2, 3, 4 and 5 panel drawings (28,046)
- g. Equipment installation
  - (1) Labor (3,621)
  - (2) Materials (448)
- h. Total Credit = \$147,071

PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~SEKEXIOMX~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

Page 3

Deduct

Item No. 4 Delete Hardwiring from the Main Control Panel to the Computer, Aeration Control Panel, Digester Control Panel, Chemical Control Panel and Sludge Control Panel

\$ 16,064

- a. Labor (13,634)
- b. Material (2,430)
- c. Total Credit = \$16,064

Item No. 5 Delete Stormwater Panel (see progress billing plan Item V.C.1 and 4)

\$ 20,400

- a. Panel Equipment (17,850)
- b. Panel Drawings (2,550)
- c. Total Credit = \$20,400

Item No. 6 Delete Chemical Control Panel (see progress billing plan Item VI.B.1)

\$ 9,600

- a. Total Credit = \$9,600

Item No. 7 Delete Installation of Stormwater Station Bubbler (see progress billing plan Item VIII.B.9)

\$ 1,000

- a. Total Credit = \$1,000

Item No. 8 Delete Start-up and Commissioning Services for Instrumentation and Control Equipment Furnished per 12/18/79 progress billing plan

\$74,795

Equivalent to forfeiture of 5% retainage of \$1,495,902 = \$74,795 credit

Item No. 9 Delete Wiring from Stormwater Control Panel to M.C.C. Stormwater L.S., from Digester Control Panel to M.C.C. P-3A, from Sludge Control Panel to M.C.C. P-1, from Chlorine Control Panel to M.C.C. Chlorine Bldg., from Aeration Control Panel to M.C.C. P-4 per plan sheet E-20

\$ 2,961

- a. Labor (2,558)
- b. Material (403)
- c. Total Credit = \$2,961

PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~SEKELIGNX~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 4

AddDeduct

Item No. 10 Furnish and Install the Influent Control Panel/Primary Control Panel (ICP/PCP) per Drawings C.O. 25-1 and 5, and Control Loop Sheets 1 thru 25, 28 thru 33

\$141,050

- a. Panel equipment and fabrication \$35,720
- b. System startup and commissioning \$43,691
- c. Field Wiring
  - (1) Add 2/C shielded #16 cable and conduit from LIT-003 and 006 to ICP/PCP
    - (a) Labor \$7,300
    - (b) Material \$1,288
  - (2) Add 2/C shielded #16 cable and conduit from ZC-002 and 005 to ICP/PCP
    - (a) Labor \$8,588
    - (b) Material \$1,344
  - (3) Add 2 #8 THHN wiring and conduit from ZC-002 and 005 to DC emergency switchboard
    - (a) Labor \$1,310
    - (b) Material \$391
  - (4) Add 8-2/C #16 shielded cables and conduit from raw sewage VFD unit to ICP/PCP
    - (a) Labor \$3,992
    - (b) Material \$522
  - (5) Add 64 #14 THHN wiring and conduit from raw sewage VFD unit to ICP/PCP
    - (a) Labor \$11,174
    - (b) Material \$1,273
  - (6) Modify raw sewage ~~edge~~ pump VFD units per attached description "Raw Sewage VFD Unit Modifications"
    - (a) Labor \$3,324
    - (b) Materials \$500
  - (7) Add 4 #14 THHN wiring and conduit from raw sewage pump engine control panel to ICP/PCP
    - (a) Labor \$2,795
    - (b) Materials \$299
  - (8) Add 120 VAC circuit wiring and conduit to primary influent splitter box
    - (a) Labor \$1,483
    - (b) Materials \$299
  - (9) Add 2 #14 THHN wiring and conduit from "safe area" lamp (at top of stairs to grit chamber) to ICP/PCP
    - (a) Labor \$2,700
    - (b) Material \$273

PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~SECT~~IGNX I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 5

AddDeductItem 10.c (continued)

- (10) Add 1-2/C #16 shielded cable and conduit from ZC-038, 039 and 042 to ICP/PCP
  - (a) Labor \$8,166
  - (b) Material \$1,297
- (11) Add 120 VAC circuit wiring and conduit to raw sludge flow meter and 2/C #16 shielded cable wiring and conduit from flowmeter to ICP/UCP.
  - (a) Labor \$3,033
  - (b) Material \$288
- (12) Total field wiring add = \$61,639
- d. Panel installation (no cost change)

Item No. 11 Furnish and Install the Utilities Control Panel (UCP) per Drawings C.O. 28-1, 2, 5, 7, 8 and 10, and Control Loop Sheets 121 thru 126, 128 thru 133, 135 thru 142

\$119,664

- a. Panel equipment and fabrication \$32,153
- b. System start-up and commissioning \$37,607
- c. Field Wiring
  - (1) Extend breaker close and trip status wiring from the junction box at main tie breaker to each 4160V breaker. Add one 120 VAC 2 pole breaker status relay to each of twenty 4160 V breakers
    - (a) Labor \$6,074
    - (b) Material \$1,587
  - (2) Add 2 #14 THHN wiring and conduit each from engine-generator #1 and #2 breakers to UCP. Add one 120 VAC 2 pole relay to each breaker for status indication
    - (a) Labor \$5,289
    - (b) Material \$620
  - (3) Add 12 #14 THHN wiring and conduit from engine-generator #1 control panel to UCP
    - (a) Labor \$4,212
    - (b) Material \$498
  - (4) Delete start/stop control wiring from UCP to engine-generator #2 control panel
    - (a) Labor (\$1,429)
    - (b) Materials (\$179)
  - (5) Add 14 #14 THHN wiring and conduit from engine-generator #2 control panel to UCP
    - (a) Labor \$4,688
    - (b) Materials \$837

PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~SKETCH~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 6

AddDeductItem No. 11.c (continued)

- (6) Add 10 #14 THHN wiring and conduit from generator #1 switchgear panel to UCP
  - (a) Labor \$3,695
  - (b) Material \$419
- (7) Add 10 #14 THHN wiring and conduit from generator #2 switchgear panel to UCP
  - (a) Labor \$3,695
  - (b) Materials \$419
- (8) Add 1-2/C #16 shielded cable from return fuel oil meter to UCP.
  - (a) Labor \$202
  - (b) Materials \$28
- (9) Add 2-2/C #16 shielded cables and conduit from jacket water control panel to UCP
  - (a) Labor \$1,855
  - (b) Materials \$205
- (10) Add 2 #14 THHN wiring and conduit each from high pressure switch and low water level switch to boiler panel #1
  - (a) Labor \$2,324
  - (b) Materials \$261
- (11) Add 8 #14 THHN wiring and conduit from boiler panel #1 to UCP
  - (a) Labor \$2,701
  - (b) Materials \$292
- (12) Total field wiring net add = \$38,293
- d. Panel installation
  - (1) Labor \$10,198
  - (2) Materials \$1,413

Item No. 12 Furnish and Install the Chemical Control

Panel (CCP) per Drawings C.O. 28-3, 7 and 9, and  
Control Loop Sheets 100 thru 115, 117 and 118

\$141,853

- a. Panel equipment and fabrication \$61,296
- b. System start-up and commissioning \$29,311
- c. Field Wiring
  - (1) Extend 8-3/C #16 shielded cables and conduit from load cell strain gauge terminations to CCP. Remove existing chlorine scales
    - (a) Labor \$3,548
    - (b) Material \$393

## DIVISION/SECTION I - Water Pollution Control Plant Additions

CHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 7

AddDeductItem 12.c (continued)

- (2) Extend 12 #14 THHN wiring and conduit from existing chlorine leak detector terminations to CCP. Move the two existing chlorine leak detectors to the CCP. Remove the existing chlorine leak detector panel
  - (a) Labor \$5,210
  - (b) Materials \$591
- (3) Add 5-2/C #16 shielded cables and conduit and 8 #14 THHN wiring and conduit from CCP to Bulk Unloading Station Panel
  - (a) Labor \$14,255
  - (b) Materials \$2,325
- (4) Total field wiring add = \$26,322
- d. Remove existing chemical control panel
  - (1) Labor \$9,271
  - (2) Materials \$1,014
- e. Panel installation
  - (1) Labor \$9,712
  - (2) Materials \$4,927

Item No. 13 Furnish and Install the Terminal Pond Control Panel (TPCP) per Drawings C.O. 28-2, 8 and 11, and Control Loop Sheets 146, 151, 152, 152A thru E, 153, 154, and 173

\$150,699

- a. Panel equipment and fabrication \$73,240
- b. System start-up and commissioning \$40,372
- c. Field wiring
  - (1) Remove G.E. IC 3600 AIAD1 voltage-to-current convertors from MCC-E, MCC-G, and MCC-B and install two (2) units in MCC-C as ZT-919 and ZT-920 and one (1) unit in MCC-D as ZT-925. Remove bubbler units from MCC-C and MCC-H for Owner's use as spare equipment.
    - (a) Labor \$24,000
    - (b) Materials \$1,000
  - (2) Add 2-120 VAC circuit wiring and conduit to TPCP
    - (a) Labor \$1,542
    - (b) Materials \$132
  - (3) Add 17 #14 THHN wiring and conduit from chlorination valve vault to TPCP. Remove pushbutton station control from sump pump and wire pump control to existing floats
    - (1) Labor \$5,281
    - (2) Materials \$979

DIVISION/SKETCH I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 8

AddDeductItem No. 13 (Continued)

- (4) Total field wiring add = \$32,934
- d. Panel Installation
- (1) Labor \$5,960
- (2) Materials \$652
- e. Delete installation of new ponds graphic per plan sheet E-34
- (1) Labor (\$2,187)
- (2) Materials (\$272)

Item No. 14 Modify Existing Stormwater Station Panel (SWSP) per Drawing C.O. 28-8 Control Loop Sheets 155, 156, 158, 160, 161, 162, 164, 165, 167, 171; and Work Description "Existing Stormwater Station Panel Modifications".

\$35,354

\$ 2,301

- a. Equipment and system start-up and commissioning \$22,675
- b. Field wiring
- (1) Add 8 #14 THHN wiring and conduit from each cam switch control panel to SWSP
- (a) Labor \$3,579
- (b) Material \$279
- (2) Delete 2 #12 THW wiring and conduit and 2/C #16 shielded cable and conduit from level controller #1 to stormwater pump #3 starter
- (a) Labor (\$942)
- (b) Material (\$136)
- (3) Delete 2 #12 THW wiring and conduit and 2/C #16 shielded cable and conduit from level controller #2 to stormwater pump #4 starter
- (a) Labor (\$625)
- (b) Materials (\$75)
- (4) Delete 20 #12 THW wiring and conduit from stormwater pump #3 starter to SWSP
- (a) Labor (\$1,064)
- (b) Materials (\$182)
- (5) Delete 30 #12 THW wiring and conduit from main tie breaker to SWSP
- (a) Labor (\$1,475)
- (b) Materials (\$239)
- (6) Delete 20 #12 THW wiring and conduit from stormwater pump #4 starter to SWSP
- (a) Labor (\$1,208)
- (b) Materials (\$213)

Item No. 14.b (continued)

- (7) Total field wiring net credit  
= \$2,301
- c. Remove existing telemetry section of  
SWSP
  - (a) Labor \$5,298
  - (b) Materials \$580
- d. Remove existing Rex screen control  
panel
  - (1) Labor \$5,298
  - (2) Materials \$580
- e. Install IY-942 and 943 in SWSP
  - (1) Labor \$706
  - (2) Materials \$217

Item No. 15 Stormwater Pumps #3 and #4  
Starter Modifications

\$ 9,440

- a. Install an interposing relay with DPDT  
isolated contacts on the thermister switch  
shutdown circuit of each pump for identification  
of motor hot alarms TAH-943 and 943. Intercept  
CT loops and terminate to drive IY-942 and 943.  
Incorporate isolated auto and run status contacts  
in each starter.
  - (1) Labor \$1,413
  - (2) Materials \$4,927
- b. Add 4 #14 THHN wiring and conduit from each  
starter to SWSP
  - (1) Labor \$2,862
  - (2) Materials \$238

Item No. 16 Aeration Control Panel (ACP)  
Modifications

\$265,034

- a. Furnish all labor and materials to modify  
the ACP per the attached description  
"Aeration Control Panel Modifications"
  - (1) Labor \$29,654
  - (2) Materials \$1,377
- b. Factory supervision of panel modifications,  
system start-up and commissioning \$117,798
- c. Field wiring
  - (1) Add 2/C #16 shielded cable and wiring  
from each aeration influent sluice  
gate (9 total) to the ACP
    - (a) Labor \$18,029
    - (b) Materials \$2,798

DIVISION/SEELIGNX I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 10

AddDeductItem No. 16.c (continued)

- (2) Add 2/C #16 shielded cable and wiring from each aeration tank air flow control valve (18 total) to the ACP
    - (a) Labor \$29,534
    - (b) Materials \$6,025
  - (3) Add 2/C #16 shielded cable and wiring from each return sludge air lift air flow control valve (9 total) to the ACP
    - (a) Labor \$11,032
    - (b) Materials \$1,600
  - (4) Add 2/C #16 shielded cable and wiring from each waste sludge flow control valve (9 total) to the ACP
    - (a) Labor \$14,107
    - (b) Materials \$1,959
  - (5) Furnish and install one (1) 5 KVA 1 Ø electrostatically shielded transformer with 2 FCAN 2 1/2% taps, 12 circuit breaker panel and 480V main breaker in MCC-P4 for 120 VAC source to ACP per Drawing C.O. 28-8
    - (a) Labor \$5,272
    - (b) Materials \$2,150
  - (6) Add 24 #14 THHN wiring and conduit from plant water pump panels 1 and 2 to ACP
    - (a) Labor \$6,972
    - (b) Materials \$956
  - (7) Total field wiring add = \$100,434
- d. Panel installation
- (1) Credit for panel shown on plan sheets E-11 and E-22
    - (a) Labor (\$5,472)
    - (b) Materials (\$680)
  - (2) Add for panel with floor dimensions 48" x 204"
    - (a) Labor \$17,604
    - (b) Materials \$4,319
  - (3) Net add = \$15,771

Item No. 17 Digester Control Panel (DCP)  
Modifications

\$105,436

- a. Furnish all labor and materials to modify the DCP per the attached description "Digester Control Panel Modifications"
- (1) Labor \$5,033
  - (2) Materials \$495

PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~XXXXXXXX~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 11

AddDeductItem No. 17 (continued)

b. Factory supervision of panel modifications,  
system start-up, and commissioning  
\$65,812

c. Field wiring

- (1) Add 3/C #16 shielded cable from  
digester cover level transmitters  
to DCP  
(a) Labor #3,945  
(b) Materials \$335
- (2) Add run status relays to four (4)  
existing fan starters  
(a) Labor \$2,564  
(b) Materials \$496
- (3) Add emergency call for help pushbutton  
in new compressor room. Add 2 #14 THHN  
wiring and conduit from the pushbutton  
to the DCP  
(a) Labor \$1,048  
(b) Materials \$168
- (4) Add 2/C #16 shielded cable from each  
of three (3) gas storage pressure  
transmitters to the DCP  
(a) Labor \$3,938  
(b) Materials \$287
- (5) Add status and control wiring and conduit  
(5 #14 THHN) from each of two (2) hot  
water booster pump starters to the DCP  
(a) Labor \$1,660  
(b) Materials \$180
- (6) Add run status relays to ten (10)  
existing digester pump starters  
(a) Labor \$3,511  
(b) Materials \$891
- (7) Add power and signal wiring for septic  
sludge pit ultrasonic level detector  
per drawing C.O. 28-6  
(a) Labor \$6,220  
(b) Materials \$2,896
- (8) Add Samuel Moore Dekoran 1800-656 or  
equivalent thermocouple cable from  
each of six (6) thermocouples to the  
DCP.  
(a) Labor \$3,945  
(b) Material \$335

DIVISION/~~SECT~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 12

AddDeductItem No. 17.c (continued)

- (9) Add 2 #14 THHN wiring and conduit from each of two (2) digester gas pressure switches
  - (a) Labor \$1,470
  - (b) Material \$207
- (10) Total field wiring add = \$34,096

Item No. 18 Modifications to Lift Station Panel, Regulator Panels and MCP-1 (Lift Station/Regulator/River Monitor Panel)

\$207,434

\$ 2,459

- a. Factory supervision of panel modifications, system start-up and commissioning.  
\$165,912
- b. Add call and run relays to existing lift station pump starters (36 pumps total)
  - (1) Labor \$28,482
  - (2) Materials \$4,706
- c. Delete installation of lift station panels for Devonshire and Caribe Colony lift stations
  - (1) Labor (\$2,318)
  - (2) Material (\$141)
- d. Add conduit system for telephone lines to MCP-1 from telephone panel in basement of main control building
  - (1) Labor \$1,500
  - (2) Material \$162
- e. MCP-1 installation
  - (1) Add for installation of MCP-1 with floor dimensions 144" x 36"
    - (a) Labor \$9,019
    - (b) Materials \$1,065
  - (2) Delete installation of lift station/regulator monitoring panel per plan sheets E-4 and E-21
    - (a) Labor (\$3,609)
    - (b) Material (\$448)
  - (3) Remove one (1) section of baseboard heater along east wall of main control room
    - (a) Labor \$612
    - (b) Materials \$33
  - (4) Total MCP-1 installation net add = \$6,672

DIVISION/~~SECTION~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 13

AddDeductItem No. 19 Blower Room Control Panel  
(BRCP) Modifications

\$ 26,772

- a. Factory supervision of panel modifications,  
system start-up and commissioning  
\$17,697
- b. Furnish all labor and material to modify  
the BRCP per the attached description  
"Blower Room Control Panel Modifications"  
(1) Labor \$1,598  
(2) Materials \$185
- c. Add 120 VAC power source to BRCP  
(1) Labor \$1,186  
(2) Materials \$177
- d. Panel installation  
(1) Labor \$5,320  
(2) Materials \$609

Item No. 20 Blowers #6 and #7 Control Panel  
(BCP-6, BCP-7) Modifications

\$ 2,376

- a. Incorporate existing blower lubrication oil pressure  
switches and bypass valve position limit switches  
into the control and alarm circuits of BCP-6 and 7  
per HNTB letter to Hagerman Construction Corporation  
dated 10/16/78  
(1) Labor \$2,145  
(2) Materials \$231

Item No. 21 Modifications to 4160 Volt  
1250 HP Blower Starters

\$ 5,409

- a. Incorporate blower system alarms into  
shutdown circuit for each of four (4)  
4160 Volt 1250 HP blower starters  
per HNTB control diagram dated 7/11/77  
(1) Labor \$2,142  
(2) Materials \$3,267

Item No. 22 Bulk Unloading Station Panel  
(BUSP) Modifications

\$ 6,475

- a. Mount BUSP in new NEMA 4X (stainless steel)  
enclosure and mount new enclosure on platform  
bracing facing west. Equip enclosure with  
a universal breather drain and heater strip  
(1) Labor \$2,393  
(2) Materials \$1,317

DIVISION/SECTION I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 14

AddDeductItem No. 22 (continued)

- b. Factory supervision of panel modifications,  
system start-up and commissioning  
\$2,765

Item No. 23 Primary Effluent Flow Indication  
in the Chemical Feed Building

\$ 14,602

- a. Intercept primary effluent flow signals to  
ICP and loop to MCC-B, by 2-2/C #16  
shielded cables and conduit  
(1) Labor \$9,706  
(2) Materials \$1,585
- b. Install two (2) vertical scale indicators  
for primary effluent flow indication in  
MCC-B \$2,205
- c. Equipment, system start-up and commissioning  
\$1,106

Item No. 24 Lime Sludge Feed Modifications

\$ 13,244

- a. Add control and indication station and associated  
wiring and conduit for lime sludge pump on top  
side of lime sludge pit per drawing C.O. 28-6  
(1) Labor \$3,606  
(2) Material \$563
- b. Relocate magnetic flow meter converter,  
ultrasonic cleaner unit and return-to-  
zero unit for the magnetic flow meter  
located in the lime sludge metering pit  
west of the primary tanks to the digester  
tunnel immediately below the pit  
(1) Labor \$2,595  
(2) Materials \$397
- c. System start-up and commissioning \$6,083

Item No. 25 Start-up and Commission Raw  
Sludge Bubbler Panel, CP-2 - \$1,106

\$ 1,106

Item No. 26 Install Return-to-Zero Units  
for each of Twenty-Three (23) Magnetic  
Flow Meters

\$ 6,826

- a. Labor \$6,146  
b. Materials \$680

PROJECT Water Quality Control Project OWNER City of Fort Wayne, IndianaDIVISION/~~SEXXIGMX~~ I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 15

Add.DeductItem No. 27 Lobby Graphic

\$ 3,291

- a. Add 120 VAC circuit wiring and conduit to lobby graphic

(1) Labor \$1,955

(2) Materials \$230

- b. Panel start-up and commissioning \$1,106

Item No. 28 Electric Subcontractor Job Site Engineering and Equipment Costs

\$ 81,870

- a. Jobsite engineering

195 days x \$320.00/day = \$62,400

- b. Equipment Rental Cost

(1) Car (jobsite engineer) \$3,150

(2) Pick-up Truck (jobsite foreman) \$4,950

(3) Pick-up truck (for lift station and regulator work) \$1,320

(4) 8' x 24' office trailer \$2,625

(5) Telephone \$2,250

(6) Fuel for trucks \$5,175

(7) Total Expense = \$19,470

Item No. 29 Electric Subcontractor Overhead Costs for Work Performed by Instrumentation and Control System Vendor

\$ 58,600

- a. Overhead for subcontract (at 7.0% of \$726,139) = \$50,830

- b. Indiana Gross Receipts Tax (at 1% of \$776,969) = \$7,770

DIVISION/SECTION I - Water Pollution Control Plant AdditionsCHANGE ORDER NO. 28 - Instrumentation and Control System Modifications

PAGE 16

AddDeductItem No. 30 Contract Documents

In addition to the specific references to change work noted above, the Instrumentation and Control System shall be completed per the document, Specifications Supplement, Instrumentation and Control System, Change Order No. 28, Ft. Wayne WPCP Division I, Pages 1 through 252, and Drawings C.O. 28-1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13(1), 13(2) and 13(3).

The cost impact of these contract documents has been addressed in items Nos. 1 through 29 above.

The work contained in this change order shall be completed within 450 days after issuance of an order to proceed. The contract completion date shall be extended to 450 days after the date of the issuance of an order to proceed.

## RECOMMENDED:

HOWARD NEEDLES TAMMEN &amp; BERGENDOFF

By Bruce W. D.Title Proj MGR Date 7/14/81

## ACCEPTED:

HAGERMAN-SHAMBAUGH, Joint Bidders  
ACCEPTED FOR HAGERMAN CONSTRUCTION CORP.  
CONTRACTOR

By J. F. HagermanTitle RES. Date 7-1-81

ACCEPTED FOR SHAMBAUGH & SON, INC.  
CONTRACTOR

By James J. ShambaughTitle Asst. Secy Date July 1, 1981

## APPROVED:

CITY OF FORT WAYNE, INDIANA  
OWNERBy TR W. J. D.

Chairman

Member

Buty R. Collins

Member

Title BOARD OF PUBLIC WORKS

Date 7/14/81

INTRODUCTORY  
CHANGE ORDER JUSTIFICATION

CHANGE ORDER NO. 28 - INSTRUMENTATION AND  
CONTROL SYSTEM MODIFICATIONS

Cost-effectiveness Analysis Report for Wastewater Plant Control System, Ft. Wayne Water Quality Control Project, dated June 18, 1980 concluded that modifications of the plant control system from the specified computer/analog automatic system to an area panel manual system with future connection to a computer for automatic control functions was the cost-effective alternative for completing the control system work. This change order implements the cost-effective alternative.

The value of credits associated with the deletion of equipment specified per Sections D-14 and D-36 is based upon the progress billing plan dated 12/18/79. The value of added work is based upon pricing dated furnished by Fischer and Porter and Commonwealth Electric Company.

Prepared by:  
HOWARD NEEDLES TAMMEN & BERGENDOFF  
ARCHITECTS ENGINEERS PLANNERS  
INDIANAPOLIS, INDIANA  
June 19, 1981

14

# Memorandum

To Board of Public Works Date July 7, 1981  
From Philip R. Boller, Director of Water Resources  
Subject Change Order #28; C-180538 Div. I

COPIES TO:

N. Wisler

I am transmitting herewith for your conditional approval Change Order #28 for Division I of the Water Pollution Control Plant expansion project. The condition for this approval should be based upon the execution of an agreement entered into by Howard Needles Tammen & Bergendoff, Hagerman-Shambaugh and the City concerning the disposition of a Honeywell suit against the three parties.

Should we be in receipt of this agreement before noon Wednesday, July 8, 1981, this change order should be sent to Council for introduction on July 14, 1981. If we are not in receipt of the agreement by Wednesday noon, then this change order should be sent to Council before noon of Monday, July 13, 1981, requesting a prior approval. If we are not in receipt of the agreement by noon Tuesday, July 14, 1981, we should withdraw our prior approval requests.

I am hereby recommending the conditional approval of this change order at this time.

Respectfully submitted,



Philip R. Boller  
Director of Water Resources

*Prior Approval 7-14-81*

*7-14-16*

*7/15/81*

*Council 7/28/81*

13377  
TITLE OF ORDINANCE CHANGE ORDER #28, WPC PLANT EXPANSION, DIVISION I, FEDERAL GRANT C-180538-01

DEPARTMENT REQUESTING ORDINANCE BOARD OF PUBLIC WORKS *S-81-07-46*

SYNOPSIS OF ORDINANCE CHANGE ORDER #28, WPC PLANT EXPANSION, DIVISION I, FEDERAL GRANT

C-180538-01. SAID CHANGE ORDER IS REQUIRED TO DELETE COMPUTER ON-SITE AND SOFTWARE EQUIPMENT  
AND OTHER RELATED EQUIPMENT, DELETE MAIN CONTROL, STORMWATER, CHEMICAL CONTROL PANELS AND RE-  
LATED WIRING; FURNISH AND INSTALL THE INFLUENT CONTROL, UTILITIES CONTROL, CHEMICAL CONTROL AND  
TERMINAL POND CONTROL PANELS; MODIFY STORMWATER STATION, AERATION, DIGESTER, AND LIFT STATION  
REGULATOR PANELS AND OTHER MINOR MODIFICATIONS. PRIOR APPROVAL ACQUIRED AND ATTACHED.  
HAGERMAN CONSTRUCTION CORP. - CONTRACTOR, SHAMBAUGH & SON, INC. - CONTRACTOR.

EFFECT OF PASSAGE CONTINUATION OF THE WPC PLANT EXPANSION , DIVISION I.

EFFECT OF NON-PASSAGE THE ABOVE DESCRIBED PROJECT CANNOT BE COMPLETED.

MONEY INVOLVED (DIRECT COSTS, EXPENDITURES, SAVINGS) \$820,855.00 TO BE PAID AS FOLLOWS:  
75% EPA, 10% STATE, 15% CITY UTILITIES.

ASSIGNED TO COMMITTEE \_\_\_\_\_